

*Other characteristics:* wing length, 182 mm.; tail, 73 mm.; weight at 21.00 hrs., 50.0 g.; at 08.30 hrs. next day, 47.5 g. Outermost primaries inconspicuously worn, thus moulted independently of the general descend-ent moult pattern and most probably in Sept.-Oct. 1966 before the renewal of the next large primaries 6 to 9. Again one single white body feather was noted on the middle of the rump and two others in a symmetrical arrange-ment under the axillaries. Dozens of pure white *filoplumae* were also found on the head and others of pale brown colour on the back. These hair-like structures with small terminal fanions (0.5 to 1 mm.) were probably over-looked in 1966 as they are rather concealed by the body feathers.

The bird was released on 8th May, 1967 and three eggs were laid on 17th, 19th and 21st May, respectively. Two young hatched on 8th June, the third on 9th June. At the present date (20th June 1967) the growing "pins" of the rectrices clearly show that all three the young will develop a normal ten-feathered tail.

*Measurements:* length difference (in mm.) of the rectrices as compared to the median pair scoring 0 mm.

	Left half of tail					Right half of tail						
	6	5	4	3	2	1	1	2	3	4	5	6
1/7/1966	+25	+23.5	+15	+8	+1.5	0	0	+1.5	+7	+14.5	+22.5	+17.5
7/5/1967	+14	+23	+15	+7	+1	0	0	+1	+6.5	+14.5	+22	+17

The present tail aberration, together with the degenerate body feathers and partial albinism, may be an atavistic manifestation due to in-breeding dependent on the high degree of fidelity to the nest-site in *A. apus*.

#### Reference:

De Roo, A. 1966. Age-characteristics in adult and subadult Swifts—*Apus a. apus* (L) —based on interrupted and delayed wing-moult. *Gerf.*, vol. LVI, fasc. 2, pp. 113-134.

## The occurrence of Schiøler's Dunlin in south-eastern England; a race new to the British Isles

by JAMES M. HARRISON and JEFFERY G. HARRISON

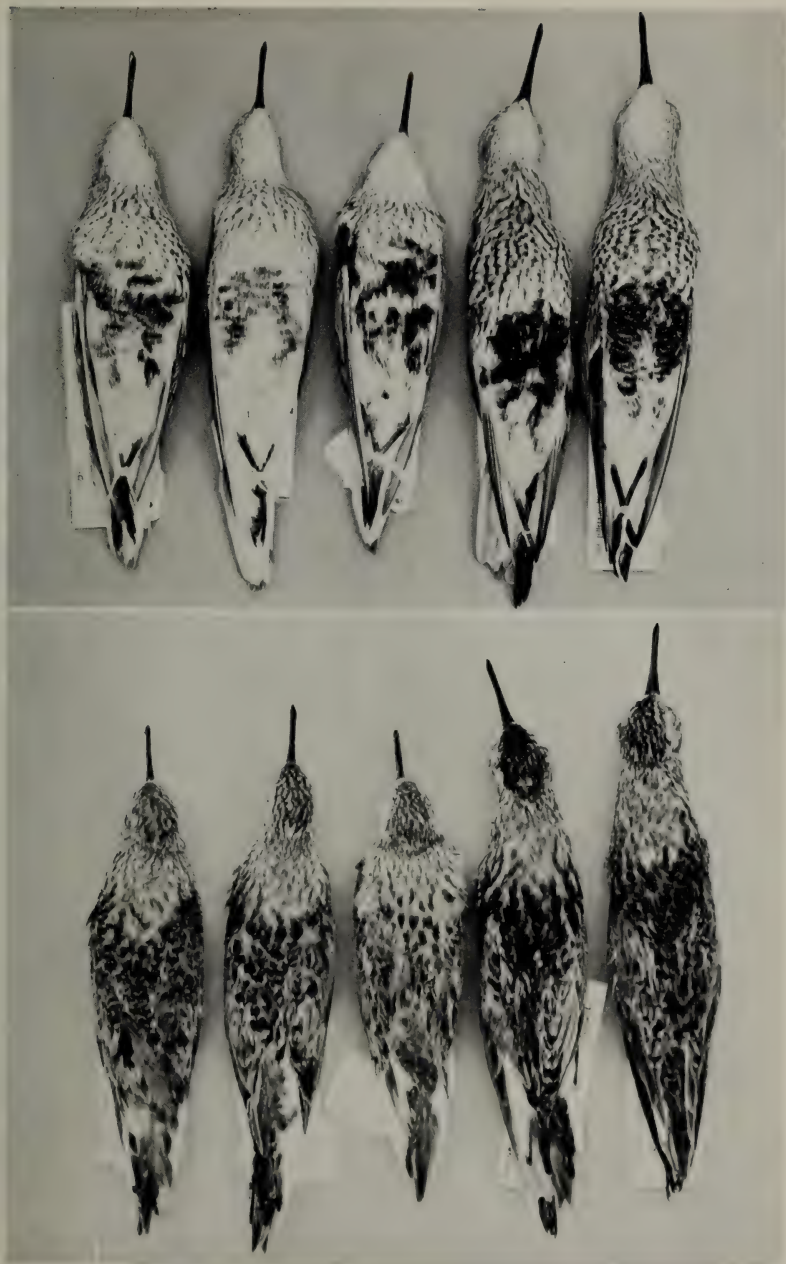
Received 2nd August, 1967

### Introduction:

In 1922, Schiøler described as *Calidris alpina arctica*, the breeding popu-lation from north-east Greenland.

Salomonsen (1950) gives the breeding distribution of this high arctic form, as from Scoresby Sound north to northern Germanialand, possibly extending into southern Peary Land.

According to *The Handbook of British Birds* (1940) the only two races recognised as occurring in the British Isles are the Northern Dunlin, *Calidris a. alpina* and the Southern Dunlin, *C. a. schinzii*. These two races are similarly accepted by Bannerman (1960), who also includes the single record of the Eastern Siberian Dunlin, *C. a. sakhalina*. It is to be particu-larly noted that this author refers to the possibility that Schiøler's Dunlin could pass through the British Isles on migration.



*Photograph by Pamela Harrison*

Three adults on left Schiøler's Dunlin from Kent, fourth from left breeding bird from Iceland, on right breeding bird from Orkney.

Schiøler's Dunlin is accepted as a well differentiated race by the following authorities:—Hartert (1932), *The Handbook* (1940), Salomonsen (1950), Dementiev *et alia* (1951), Bannerman (1960) and Vaurie (1965).

### Description:

In spring plumage *C. a. arctica* resembles *C. a. schinzii* but upper parts generally paler and feather margins on mantle, long scapulars and crown yellowish-brown and less chestnut; the nape tends to be greyer. Breast whiter, with finer striations than in *C. a. schinzii*, which also shows in some individuals a buffish suffusion of the neck and upper breast. With wear, by abrasion, the plumage in summer generally becomes darker and the pectoral striations become more prominent; these changes are complete by July.

In juvenile plumage the characters are basically similar in that the upper parts are generally paler, the feather margins of the crown, neck, mantle and long scapulars being pale buff to whitish. The under parts are again generally whiter and the pectoral and flank markings are less prominent.

The bill of *C. a. arctica* is markedly shorter than in *C. a. schinzii*: according to Salomonsen (*loc. cit.*) culmen measurements for the races are as follows:

<i>C. a. arctica</i>		<i>C. a. schinzii</i>	
♂♂	25—27.5 mm. (average 26 mm.)	♂♂	26—31.5 mm. (average 29 mm.)
♀♀	27—31 mm. (average 28.3 mm.)	♀♀	30.5—35 mm. (average 33 mm.)

Vaurie (*loc. cit.*) measuring from the nostril, gives for ♂♂ only of *C. a. arctica* 18.5 to 24 mm., (average 21.8 mm.) compared with 23—29 mm. (average 25.1 mm.) for *C. a. schinzii*.

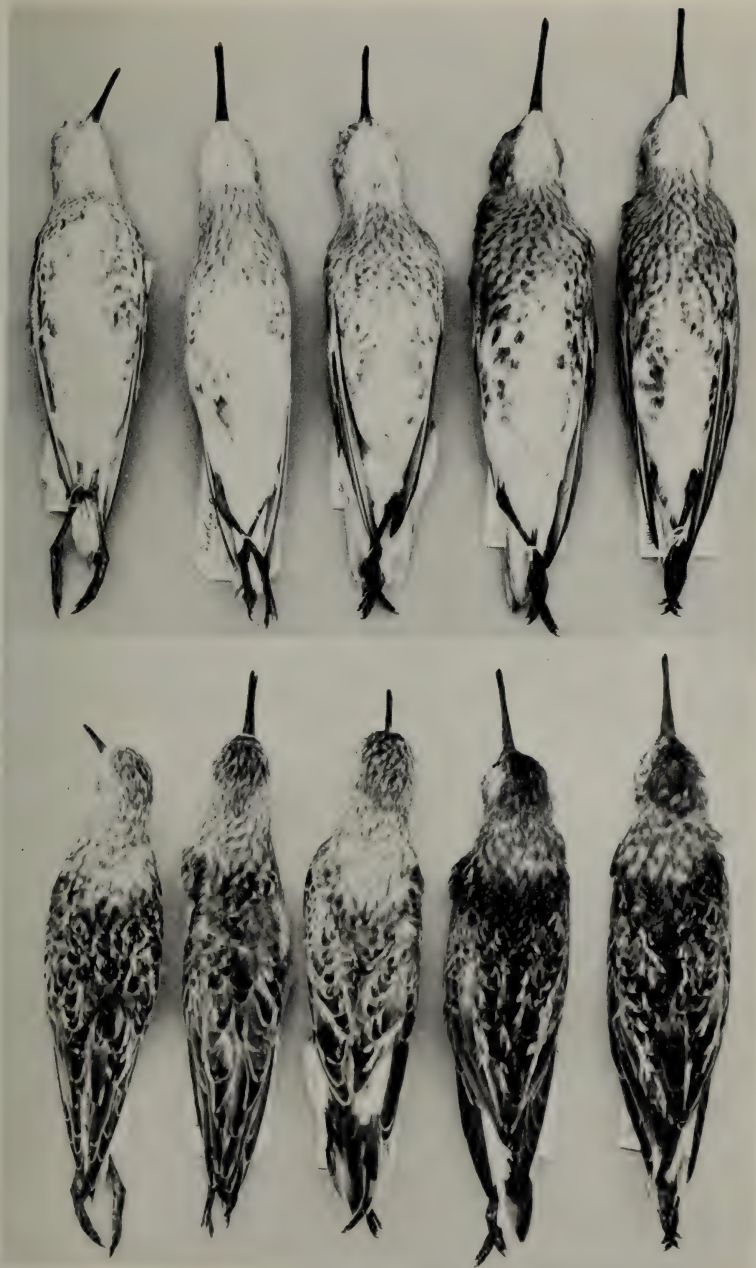
The following specimens in our collections from south-east England are, in our opinion referable to *C. a. arctica*:—

				Bill (in millimetres)	
				(a) from anterior end of nostril, and	(b) from feather margin.
				(a)	(b)
<i>Adults</i>					
August	12	1909	♂ Rye Harbour, Sussex	22.5	27
May	14	1910	♂ Rye Harbour, Sussex	24	28
May	27	1943	♂ Cambridge Sewage Farm	23	28
May	25	1966	♂ Medway Estuary, Kent	21.5	25
May	24	1967	♂ Medway Estuary, Kent	20	24
June	7	1967	♂ Medway Estuary, Kent	20	25
July	7	1967	♂ Medway Estuary, Kent	22	27
August	8	1967	♂ Medway Estuary, Kent	23	27.5
<i>Juveniles</i>					
September	17	1896	♀ Rye Harbour, Sussex	24	27
August	22	1910	♂ Rye Harbour, Sussex	24.5	26
August	22	1910	♀ Rye Harbour, Sussex	24.5	26.5
August	30	1931	♀ near Deal, Kent	24	27
August	4	1967	♂ Medway Estuary, Kent	22.5	26
August	11	1967	♀ Medway Estuary, Kent	23	26
August	11	1967	♂ Medway Estuary, Kent	22.5	24

We have now to consider what value the bill measurements have under ringing conditions in the field as a means of determining Schiøler's Dunlin.

Conforming to the general rule in waders that females are larger than males, (based on the range of measurements given by Salomonsen (*loc.*





*Photograph by Pamela Harrison*

Three juveniles on left Schiøler's Dunlin from Kent and Sussex, two birds on right, juveniles from Iceland.

*cit.*), unfortunately only bill lengths, as taken from the feather margin, of less than 26 mm., can be provisionally assigned to *C. a. arctica*. We feel we should point out, however, that in a live bird the feather margin is capable of movement over the base of the bill, and obviously wear at the feather margin is also variable.

A measurement, on the other hand, taken from the anterior end of the nostril offers greater accuracy, but would demand extreme skill in anyone using this method on a live bird. Obviously then bill measurement must be correlated with plumage characteristics, which hitherto have not been fully appreciated. To the best of our knowledge Schiøler's Dunlin has not been described in its winter plumage, and our remarks can only be applied to spring adults and juveniles.

We are fortunate in having a series of bill measurements made available to us through Mr. W. F. A. Buck of the Mid-Kent Ringing Group and Mr. R. E. Scott of the Dungeness Bird Observatory.

The following bill measurements would appear to be probably referable to *C. a. arctica*:—

*Mid-Kent Ringing Group*: total number ringed and measured approximately 2,000, all caught on the North Kent marshes; of these only the following four can definitely be assigned to *C. a. arctica* on measurement from the feather margin:—

August 5th, 1964, juvenile, bill 25 mm.

September 3rd, 1964, juvenile, bill 24 mm.

August 28th, 1966, juvenile, bill 25 mm.

September 16th, 1966, juvenile, bill 25 mm.

In addition, a juvenile caught on August 19th, 1967 on the Swale Marshes, Kent, had a bill length of 24 mm. and its plumage was noted as being particularly pale.

Out of 62, ringed and measured at the Dungeness Bird Observatory, there was only one, a juvenile, September 5th, 1966, with a bill of 25 mm. It should be noted however that on the same date, an adult and another juvenile were trapped with bill measurements of 26 mm.; all were caught at the Wicks near Dungeness. This suggests that a small party of Schiøler's Dunlin was passing through.

Dr. Salomonsen (*in litt.* 17, vi. 67) has kindly given us the only four recoveries of this form ringed on the breeding grounds, as follows:—

*Copenhagen Museum*

Ring No.	Ringing Data	Recovery Data
755220	Scoresby Sound, N.E. Greenland August 14th, 1963. Adult.	Verdon-sur-Mer, France September 1st, 1963.
755226	Scoresby Sound, N.E. Greenland August 14th, 1963. Adult.	La Bassin, d'Arachon, France. September 11th, 1963.
755228	Scoresby Sound, N.E. Greenland August 14th, 1963. Adult.	Charente Maritime, France August 24th, 1965.
845810	Daneborg, N.E. Greenland July 6th, 1964, ? Adult.	Charente Maritime, France July 26th, 1965.

From these ringing recoveries and our specimens it would appear that Dunlin from north-east Greenland move south-westwards, through south-east England and along the French coast of the Bay of Biscay. These findings support Bannerman (1960 *loc. cit.*) who writes that 'examples of this race (*i.e.* Schiøler's Dunlin) are almost certain to pass through the British Isles'.

Our dates would suggest that this race passes through the British Isles on its northwards migration between 14th May and 17th June, while in autumn it has occurred between 7th July (adult) and 17th September (juvenile). It is of interest to note that out of eight Dunlin collected between 7th July and 18th August, 1967, four were typical of Schiøler's Dunlin; moreover between those dates, the maximum number of Dunlin seen on any one day was only twelve. The other four specimens were all *C. a. schinzii*.

It is of interest that the Mid-Kent Ringing Group has caught the majority of the 2,000 Dunlin between October and February, catching only one example between these dates with a culmen length of 26 mm., (26 x 66) and none which could be unequivocally assigned to the race *C. a. arctica*.

### Discussion:

We must point out that the vernacular names of the races of this species have been both inaccurate and misleading. It has been quite erroneous to describe the *short-billed* Dunlin as the Southern Dunlin, for the shortest-billed race is, in fact, *C. a. arctica* one of the most northerly representatives of this species. We must add that the line figure to the Dunlin (scale 1: 1) on page 238 of *The Handbook of British Birds* Vol IV, with the caption "Bill of ad. male Southern Dunlin (*Calidris a. schinzii*)", can be nothing other than *C. a. arctica*. The bill measurements of this figure from the anterior end of the nostril is 21.5 mm., and from the feather margin is 25.5 mm. It is therefore quite incorrect to refer to southern short-billed and the northern long-billed Dunlin.

A further possible cause of confusion is to be found in the distribution maps of the Dunlin races in Dementiev's *Birds of the Soviet Union* (1951, 3, p. 124) in which the form *C. a. arctica* is shown as breeding along the whole of the south-east coast of Greenland except for the extreme south, whereas Salomonsen (*loc. cit.*) has shown that the population of south-east Greenland belongs to *C. a. schinzii*. Similarly we would point out that the breeding form of Iceland is referable to this latter race, and not to *C. a. alpina*. This is comparable to the findings of Harrison (1944) on Redshanks, *Tringa totanus*, who showed that the Icelandic race *T. t. robusta*, is more closely related to the British race *T. t. britannica* than to the Continental nominate form, *T. t. totanus*. The difference here, is that the range of *C. a. schinzii* extends across the southern North Sea just into the European mainland north-westward into south-east Greenland.

It is not until north-east Greenland is reached that racial distinction occurs in the form of *C. a. arctica*.

It would seem that the spring plumage of Schiøler's Dunlin which tends to be so pale, could have a survival value in an area where summer snow is often persistent. The paleness therefore could provide protective coloration.

Another interesting feature of Schiøler's Dunlin is the short bill, a feature which finds a parallel in the shortbill of the Icelandic Black-tailed Godwit, *Limosa limosa islandica* compared with the nominate form *L. l. limosa*. One possible explanation of this might be that in north-east Greenland food is taken by shallower probings in the mud (owing to the presence of permafrost) than is the case in more southerly latitudes.

Also, this adaptation would appear to conform to Allen's Rule, which postulates that in arctic animals projecting body parts tend to be reduced, as a means of heat conservation. Freuchen and Salomonsen (1958) quote



as a typical example Brünnich's Guillemot. *Uria lomvia*, and the high arctic race of the Black Guillemot *Cepphus grylle ultimus*, the bill of which averages 1.1 inches in length compared with 1.3 inches for the low arctic form, *C. g. arcticus*. Similarly the high arctic Fulmar, *Fulmarus glacialis minor*, has a much shorter bill than the nominate form from further south.

### Summary:

The occurrence of Schiøler's Dunlin *Calidris alpina arctica*, as a passage-migrant in south-east England is described on specimens and from ringing measurements.

This race is new for the British Isles. Its characteristics are described and illustrated. Ringing records of birds from north-east Greenland show that this race also passes along the west coast of France in autumn.

It is pointed out that the vernacular names in use at present, viz: "Northern" and "Southern", "long-billed" and "short-billed" Dunlin have given rise to certain misconceptions to both taxonomists and field workers in this country.

In its morphology, Schiøler's Dunlin conforms to Allen's Rule, and as suggested by us, its pale spring plumage may be another survival factor. The winter plumage has yet to be described, and its winter quarters defined.

This paper is a preliminary to a more comprehensive review of the species and its races in the British Isles, (in course of preparation).

### Acknowledgments:

Specimens mentioned in this paper as collected since 1954, were taken under licence granted to us by the Nature Conservancy, to whom we are indebted for these research facilities. We are most grateful to Mr. W. Mouland on whose ground the recent material was obtained.

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Finally we are most grateful to Dr. Pamela Harrison for the excellent photographs illustrating this paper.

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